Claims

1. A cryogenic fluid pumping system, comprising at least one cryogenic fluid tank (8a, 8b), a cryogenic pump (18) having an inlet pressure drop (NPSH) and a suction line (23a, 23b) connecting said tank (8a, 8b) to said pump (18), characterized in that it comprises means (15) for controlling the pressure in the suction line (23a, 23b) comprising control means for pressurizing (12a, 12b) and depressurizing (7) the tank (8a, 8b), for maintaining the pressure in the suction line (23a, 23b) at most as high as the cryogenic fluid saturation pressure plus the inlet pressure drop (NPSH) of the cryogenic pump (18).

2. The pumping system as claimed in claim 1, characterized in that said control means comprise a pressure sensor (14) and a temperature sensor (16) for respectively determining the pressure and temperature of the cryogenic fluid in the suction line (23a, 23b), supplying signals to a control unit (15) for controlling said pressurization means (12a, 12b) and depressurization means (7).

3. The pumping system as claimed in claim 2, characterized in that said pressurization and depressurization control means comprise a tank (8a, 8b) pressurizing valve (12a, 12b) and a tank (8a, 8b) depressurizing valve (7).

4. The pumping system as claimed in either of claims 2 and 3, characterized in that said control means comprise a computation unit (17) for calculating, from the temperature measured by said temperature sensor (16), a minimum value of the pressure measured by said pressure sensor (14) equal to the liquid saturation pressure at said temperature, plus the inlet pressure drop (NPSH) of the pump (18).

5. The pumping system as claimed in any one of claims 1 to 4, characterized in that it comprises at least two cryogenic fluid tanks (8a, 8b) arranged in parallel, at least one tank being filled with cryogenic fluid during the drainage of another tank.

6. The pumping system as claimed in any one of claims 1 to 5, characterized in that said tanks (8a, 8b) are filled with saturated cryogenic fluid with its vapor.

7. The pumping system as claimed in any one of claims 1 to 6, characterized in that said cryogenic fluid is a low density fluid.

8. The pumping system as claimed in claim 7, characterized in that said low density cryogenic fluid is hydrogen or helium.

9. The pumping system as claimed in any one of claims 1 to 8, characterized in that the tank (8a, 8b) is pressurized using a pressurized gas source (22).

10. The pumping system as claimed in claim 9, characterized in that the pressurizing gas of the pressurized gas source (22) is part of the fluid pressurized by the pump (18).